

### **Remarks**

Reconsideration of the application is respectfully requested in view of the foregoing amendments and following remarks. Claims 1-7, 9-15, 37-42, 44, 46 and 47 are pending in the application. No claims have been allowed. Claims 8 and 45 are canceled without prejudice. Claims 46 and 47 are new. Claims 1, 37, 44 and 47 are independent.

### ***Response to Drawing Objection***

In the Action, the Office objects to the drawings on the following grounds: "The drawings must show every feature of the invention specified in the claims. Therefore, the means in claims 44 must be shown or the feature(s) canceled from the claims(s)." [See Action at p. 2.] Applicant respectfully traverses this objection.

The elements of amended claim 44 are supported by the Figures, including "means for processing high dynamic range image information," "means for processing split-pane view information," and "means for causing a computer to display an image view." The M.P.E.P. states, "Any structural detail that is of sufficient importance to be described should be shown in the drawing." [See M.P.E.P. § 608.02(d).] Applicants submit that the "structural detail that is of sufficient importance to be described" is already shown in the drawings. [See, e.g., Application at Fig. 1 (showing an exemplary arrangement that includes a processing unit, memory, storage, input devices and output devices).] In addition, Figure 6 shows an example of a "Split-pane Viewer." Not all of the elements shown in the Figures are recited in or required by amended claim 44, but the elements of amended claim 44 are clearly supported by the Figures.

Applicants also respectfully submit that the Action does not specify which feature of the previous version of claim 44 was allegedly missing from the Figures. [See M.P.E.P. § 608.02(d) ("Examiner Note: In bracket 1, insert the features that must be shown.").]

Applicants respectfully request that the objection to the drawings be withdrawn.

### ***Response to § 112 Rejections***

In the Action, the Office rejects claim 44 under 35 U.S.C. § 112, first and sixth paragraphs, on the following grounds: (1) that the specification "does not reasonably provide enablement for the other steps, namely receiving high dynamic range information, receiving region of interest information or

displaying said image"; and (2) that "[e]lements critical or essential to the practice of the invention, but not included in the claim(s) are not enabled by the disclosure." [See Action at pp. 3-5]. Applicants respectfully traverse these rejections.

As an initial matter, Applicants would like to comment generally on the enablement of amended claim 44 and the characterizations of the language of claim 44 in the Action. First, the specification is enabling for each element of claim 44 in its current form. The Detailed Description describes (with reference to Figures 1-6) various techniques for processing high dynamic range image information, processing split-pane view information, and displaying image views, and describe hardware that may be used as "means for processing high dynamic range image information," "means for processing split-pane view information," or "means for causing a computer to display an image view," as recited in amended claim 44. Section I of the Detailed Description describes, with reference to Figure 1, processing units, memory, storage, and input/output devices (keyboard, mouse, display, etc.). For example, the specification states, "The invention can be described in the general context of computer-executable instructions, such as those included in program modules, being executed in a computing environment on a target real or virtual processor." [See Application at p. 8, lines 6-8.]

Second, amended claim 44 is not subject to the Office's specific objections to the language of claim 44. For example, although the Examiner states that the specification "does not reasonably provide enablement for the other steps, namely receiving high dynamic range information, receiving region of interest information or displaying said image" [see Action at p. 3], claim 44 in its current form does not recite "receiving high dynamic range information" or "receiving region of interest information." Applicants also respectfully point out that amended claim 44 is not a "claim reciting software performing acts on a computer that require user interfaces and actions," "a software only claim," or "a claim to a computer program product." [See Action at p. 4.] Claim 44 does not recite, for example, "user interfaces and actions" or "a computer program product."

With regard to ground (1), at page 5 the Action states, "In order to traverse the first rejection, application is required to amend the specification pursuant to 37 CFR 1.75(d) to explicitly state what structures, materials, or acts described in the specification and their equivalents thereof (see MPEP 2181, subsection IV)." Applicants respectfully submit that no amendment to the specification is necessary. However, if the Office sees it necessary to require the specification to be amended "to explicitly state, with reference to the terms and phrases of the claim element, what structure, materials,

or acts perform the function recited in the claim element" [*see* M.P.E.P. § 2181, part IV], Applicants respectfully request the Office to specify which function or claim element the Office wishes to be clarified.

With regard to ground (2), the Action states at page 5, "In order to traverse the second rejection, applicant is required to point out support in the specification for a claim that a computer lacking those key components could in fact act as the recited 'means' in claim 44 for such a computer program. Further, the burden is on applicant to prove that the claim scope of claim 44 is such that it does not in fact lack essential steps for the reasons set forth above." At page 4 the Action states, "the other, essential elements are not present, and applicant has admitted in the specification that such components are essential to the practice of the invention. In reciting 'means' in a software only claim, applicant does not get the implied coverage that a method claim provides, since an apparatus claim, which a claim to a computer program product is (under current court and legal doctrine), must explicitly set out all essential components."

Applicants respectfully point out that amended claim 44 is not "a software only claim" or "a claim to a computer program product." On the contrary, amended claim 44 is directed to a computer system. Applicants respectfully submit that there are no "key components" lacking in amended claim 44 and that the burden is not on Applicants "to prove that the claim scope of claim 44 is such that it does not in fact lack essential steps for the reasons set forth above," since the reasons given do not apply to claim 44 in its current form.

Applicants also respectfully disagree with the Office's allegation of an admission of essential components. The Action does not explain what "other, essential elements are not present" and does not specify what components Applicants have allegedly admitted to be essential. Applicants disagree that any admission has been made in the specification as to whether any particular component or element of the invention is "essential" to claim 44. Applicants also respectfully submit that since the Action does not specify which "key components" the Office feels to be lacking, it would be impossible for Applicants to respond appropriately to this rejection even if there were "key components" missing from claim 44.

For these reasons, Applicants respectfully request that the current rejections of amended claim 44 under § 112 be withdrawn.

***Response to Examiner's Characterization of Applicant's Date of Invention***

At pages 6-7 the Action states, "Microsoft Office has come with a Photo Editor since 1991 (if a user clicks on the About window, it shows as copyright 1991-1998, which clearly proves a date of conception at least five years before applicant's invention)."

Applicants again respectfully disagree with the Examiner's characterization of Applicants' date of invention. Applicants reserve the right to provide evidence of conception or reduction to practice prior to the application date.

***Response to § 103(a) Rejections***

The Action rejects claims 1-15, 37-42, 44 and 45 under 35 U.S.C. § 103(a). Applicants respectfully traverse these rejections.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. In addition, the prior art reference (or references when combined) must teach or suggest all the claim limitations. (See MPEP § 2142.) Motivations to combine or modify references must come from the references themselves or be within the body of knowledge in the art. (See MPEP § 2143.01.)

Applicants respectfully submit that the claims in their present form are allowable over the applied art, as explained in detail below.

**A. Rejection of Claims 1-4, 9-10, 14-15, 37, 38, 40 and 44**

In the Action, the Office rejects claims 1-4, 9-10, 14-15, 37, 38, 40 and 44 under § 103(a) in view of Siprut, *Adobe Photoshop Handbook* (1995) ("Photoshop") and U.S. Patent No. 5,818,975 to Goodwin ("Goodwin"). The Office also rejects claim 15 under § 103(a) in view of Photoshop, Goodwin and "HDRView: Version 1.2" (document dated April 11, 2000; downloaded from <http://athens.ict.usc.edu/FiatLux/hdrview>) ("HDRView"). Applicants respectfully traverse these rejections.

*Claims 1-4, 9-10 and 14-15*

As amended, claim 1 recites in part:

receiving split-pane view information, the split-pane view information defining two or more image regions; and  
displaying an image view comprising:  
a first image region constructed from a first portion of the high dynamic range image information; and  
a second image region constructed from a second portion of the high dynamic range image information, the second image region displayed in accordance with at least one display parameter that differs from a corresponding display parameter for the first image region;  
wherein the split-pane view information comprises at least one movable split position; and  
wherein a change in the movable split position results in a change of the first portion of the high dynamic range image information from which the first image region is constructed, and a change of the second portion of the high dynamic range image information from which the second image region is constructed.

The Action indicates that a combination of Goodwin and Photoshop "would render the claimed invention obvious." [See Action at p. 9.] Applicants respectfully disagree.

Even if Goodwin were combined with Photoshop and motivation could be found to make such a combination, a combination of Goodwin and Photoshop would still not teach or suggest the recited language of amended independent claim 1. For example, the combination of Goodwin and Photoshop does not teach or suggest "wherein the split-pane view information comprises at least one movable split position; and wherein a change in the movable split position results in a change of the first portion of the high dynamic range image information from which the first image region is constructed, and a change of the second portion of the high dynamic range image information from which the second image region is constructed," as recited in claim 1. Although the Office asserts at page 7 of the Action that "Goodwin clearly shows in Figure 6-8 and states clearly as noted above, that the user can adjust the parameters of the selected (rectangular) region as in Figure 7, such that it is displayed in accordance with the at least one display parameter that differs from the corresponding display parameter for the background image," such a description does not teach or suggest the cited language of claim 1.

For example, the specification describes the following example:

A split-pane viewer allows a user to view up to four different versions of the same image simultaneously in a viewing window. The different versions can be of

different dimensions or aspect ratios. The window area is divided to show different areas of the image versions. The window split position can be moved (e.g., by clicking and dragging with a mouse). During viewing, a user can choose to switch between a split view and a full image view where one version of the image can be viewed in its entirety. The viewer allows a user to perform other functions on the image or images such as zoom, color adjustment, repositioning within the window, etc.

For example, a split-pane viewer can take four input images where the first three are images of the same scene taken with varying exposure, and the last is a single tone-mapped version of the HDR image constructed from the first three images. All of these images are cached in RAM. The final view is constructed by showing a zoomed-in region of the entire image split into four rectangular panes, laid out 2 by 2, with each pane showing one of the four cached images.

[See Application at p. 16, lines 6-19.]

Claims 2-4, 9-10 and 14-15 depend from claim 1 and should be allowable for at least the reasons given above in support of claim 1. (HDRView, which is cited by the Office against claim 15, also does not teach the above-cited language of claim 1.)

The rejections of claims 1-4, 9-10 and 14-15 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

The rejections of dependent claims 5-7 and 11-13 are addressed below.

#### *Claims 37-38 and 40*

The Action states that "the parent claim 37 is merely a broader version of the parent claim 1" and that claim 37 is "unpatentable over Goodwin in view of Photoshop." [See Action at pp. 18, 21.] Applicants respectfully disagree.

As amended, independent claim 37 recites in part:

a high dynamic range image viewer operable to output to a display an image view comprising plural image regions constructed from high dynamic range image information, the image view based at least in part on split-pane view information;  
    wherein a first image region of the plural image regions is displayed in accordance with at least one display parameter that differs from a corresponding display parameter for a second image region of the plural image regions;  
    wherein the split-pane view information comprises at least one movable split position; and  
    wherein a change in the movable split position results in a size change of at least the first and second image regions.

Even if Goodwin were combined with Photoshop and motivation could be found to make such a combination, a combination of Goodwin and Photoshop would still not teach or suggest the recited

language of amended independent claim 37. For example, the combination of Goodwin and Photoshop does not teach or suggest "an image view comprising plural image regions constructed from high dynamic range image information, the image view based at least in part on split-pane view information . . . wherein the split-pane view information comprises at least one movable split position; and wherein a change in the movable split position results in a size change of at least the first and second image regions," as recited in amended claim 37. Although the Office asserts at page 7 of the Action that "Goodwin clearly shows in Figure 6-8 and states clearly as noted above, that the user can adjust the parameters of the selected (rectangular) region as in Figure 7, such that it is displayed in accordance with the at least one display parameter that differs from the corresponding display parameter for the background image," such a description does not teach or suggest the cited language of amended claim 37.

Claims 38 and 40 depend from amended claim 37 and should be allowable for at least the reasons given above in support of claim 37.

The rejections of claims 37, 38 and 40 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

The rejections of dependent claims 39, 41 and 42 are addressed below.

#### *Claim 44*

The Action states at page 10, "no additional limitations are brought into play by the invocation of 35 U.S.C. 112, sixth paragraph, and the claim is thusly rejected in the same manner as claim 1." Applicants respectfully disagree.

As amended, independent claim 44 recites in part:

- means for processing split-pane view information, the split-pane view information defining two or more image regions; and
- means for causing a computer to display an image view comprising:
  - a first image region constructed from a first portion of the high dynamic range image information; and
  - a second image region constructed from a second portion the high dynamic range image information, the second image region displayed in accordance with at least one display parameter that differs from a corresponding display parameter for the first image region;
- wherein the split-pane view information comprises at least one movable split position; and
- wherein a change in the movable split position results in a change of the first

portion of the high dynamic range image information from which the first image region is constructed, and a change of the second portion of the high dynamic range image information from which the second image region is constructed.

Even if Goodwin were combined with Photoshop and motivation could be found to make such a combination, a combination of Goodwin and Photoshop would still not teach or suggest the recited language of amended independent claim 44. For example, the combination of Goodwin and Photoshop does not teach or suggest "wherein the split-pane view information comprises at least one movable split position; and wherein a change in the movable split position results in a change of the first portion of the high dynamic range image information from which the first image region is constructed, and a change of the second portion of the high dynamic range image information from which the second image region is constructed," as recited in amended claim 44. Although the Office asserts at page 7 of the Action that "Goodwin clearly shows in Figure 6-8 and states clearly as noted above, that the user can adjust the parameters of the selected (rectangular) region as in Figure 7, such that it is displayed in accordance with the at least one display parameter that differs from the corresponding display parameter for the background image," such a description does not teach or suggest the cited language of amended claim 44.

The rejection of claim 44 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**B. Rejection of Claims 5-7**

In the Action, the Office rejects claims 5-7 under § 103(a) in view of Photoshop, Goodwin and U.S. Patent No. 6,597,468 to Inuiya ("Inuiya"). [See Action at pp. 12-14.] The Office also rejects claim 5 under § 103(a) in view of Photoshop, Goodwin and Jyrinki, "High Dynamic Range Images," (document dated "7.4.2003" and "Spring 2003") ("Jyrinki") and claims 6 and 7 under § 103(a) in view of Photoshop, Goodwin, Jyrinki and Debevec et al., "Recovering High Dynamic Range Radiance Maps from Photographs," (1997) ("Debevec"). Applicants respectfully traverse these rejections.

The applied art does not teach or suggest each and every element of dependent claims 5-7. Inuiya describes "wide dynamic range processing" that "merges low-sensitivity and high-sensitivity images into a single image." [See Inuiya at col. 5, lines 18-20.] Jyrinki provides descriptions of techniques for displaying high dynamic range images on low dynamic range displays (e.g., using tone mapping). Debevec provides descriptions of recovering high dynamic range radiance maps from



photographs taken with conventional imaging equipment. [See Debevec at abstract.] However, the applied art does not teach or suggest the recited language of independent claim 1.

Because the applied art does not teach or suggest at least one element of independent claim 1, claims 5-7 are allowable at least for the reasons given above for the allowability of their parent claim. Therefore, the rejection of claims 5-7 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**C. Rejection of Claim 11**

In the Action, the Office rejects claims 11 and 45 under § 103(a) in view of Photoshop, Goodwin, and Durand et al., "Fast Bi-lateral Filtering for the Display of High-Dynamic-Range Images," (2002) ("Durand"). Applicants respectfully traverse these rejections.

The applied art does not teach or suggest each and every element of dependent claim 11. Durand provides descriptions of "a fast and robust operator that takes a high-dynamic-range image as input, and compresses the contrast while preserving details of the original image" [see Durand at p. 257, right column] but the applied art does not teach or suggest the recited language of independent claim 1. Because the applied art does not teach or suggest at least one element of independent claim 1, claim 11 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 11 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**D. Rejections of Claims 12 and 42**

In the Action, the Office rejects claims 12 and 42 under § 103(a) in view of Photoshop, Goodwin and U.S. Patent Application Publication No. 2003/0142126 ("Estrada"). Applicants respectfully traverse these rejections.

The applied art does not teach or suggest each and every element of dependent claim 12. Estrada provides descriptions of a "system and method . . . for dynamically generating viewable graphics," but the applied art does not teach or suggest the recited language of independent claim 1. Because the applied art does not teach or suggest at least one element of independent claim 1, claim 12 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 12 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully

requested.

With regard to claim 42, claim 37, from which claim 42 depends, recites in part, "an image view comprising plural image regions constructed from high dynamic range image information, the image view based at least in part on split-pane view information . . . wherein the split-pane view information comprises at least one movable split position; and wherein a change in the movable split position results in a size change of at least the first and second image regions." The applied art does not teach or suggest the recited language of independent claim 37. Because the applied art does not teach or suggest at least one element of independent claim 37, claim 42 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 42 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**E. Rejection of Claim 13**

In the Action, the Office rejects claim 13 under § 103(a) in view of Photoshop, Goodwin, U.S. Patent No. 6,219,459 to Kurashige et al. ("Kurashige"), U.S. Patent No. 6,424,287 to Doerry et al. ("Doerry"), U.S. Patent No. 6,770,879 to Azordegan et al. ("Azordegan"), and U.S. Patent Application Publication No. 2004/0184059 ("Chun"). Applicants respectfully traverse this rejection.

The applied art does not teach or suggest each and every element of dependent claim 13. Kurashige, Doerry, Azordegan and Chun do not teach or suggest the recited language of independent claim 1. Because the applied art does not teach or suggest at least one element of independent claim 1, claim 13 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 13 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**F. Rejection of Claim 39**

In the Action, the Office rejects claim 39 under § 103(a) in view of Photoshop, Goodwin and U.S. Patent Application Publication No. 2002/0154144 ("Lofgren"). Applicants respectfully traverse this rejection.

The applied art does not teach or suggest each and every element of dependent claim 39. Lofgren provides descriptions of derivative image management using digital watermarks, but the applied art does not describe high dynamic range images and does not teach or suggest the recited

language of independent claim 37. Because the applied art does not teach or suggest at least one element of independent claim 37, claim 39 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 39 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

**G. Rejection of Claim 41**

In the Action, the Office rejects claim 41 under § 103(a) in view of Photoshop, Goodwin and U.S. Patent No. 6,546,144 to Fukuhara et al. ("Fukuhara"). Applicants respectfully traverse this rejection.

The applied art does not teach or suggest each and every element of dependent claim 41. Fukuhara provides descriptions of a "method and apparatus whereby a thumbnail image or an image converted in resolution can be stored or displayed," but the applied art does not teach or suggest the recited language of independent claim 37. Because the applied art does not teach or suggest at least one element of independent claim 37, claim 41 is allowable at least for the reasons given above for the allowability of its parent claim. Therefore, the rejection of claim 41 under 35 U.S.C. § 103(a) should be withdrawn. Such action is respectfully requested.

***New Claims 46 and 47***

New claim 46 depends from amended claim 1 and recites in part, "wherein a change in the movable split position results in a change of the third portion of the high dynamic range image information from which the third image region is constructed, and a change of the fourth portion of the high dynamic range image information from which the fourth image region is constructed." Support for claim 46 can be found, for example, at pages 16-17 and Figure 6 of the application.

New independent claim 47 recites in part, "displaying a first image segment constructed from the high dynamic range image information and the image segment information, the first image segment displayed in accordance with at least one display parameter that differs from a corresponding display parameter for a second image segment; wherein the first image segment is displayed in accordance with the at least one display parameter that differs from the corresponding display parameter for the second image segment in response to passing a cursor over the first image segment." Support for claim 47 can be found, for example, at pages 15-16 of the application.

Claims 46 and 47 are allowable. Such action is respectfully requested.

***Request For Interview***

If any issues remain, the Examiner is formally requested to contact the undersigned attorney prior to issuance of the next Office Action in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing formal Amendment so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused.

This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

*Conclusion*

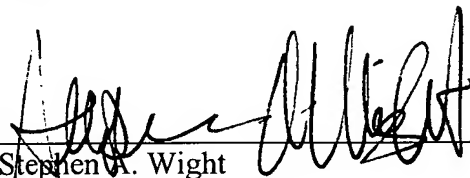
The claims in their present form should now be allowable. Such action is respectfully requested.

Respectfully submitted,

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